

- I. Project Title: **Identification and Curation of Larval Fish by Colorado State University Larval Fish Laboratory.**
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- III. Project Summary: This ongoing project provides for (1) final identification and cataloging of preserved fish collections for Project 22F (Yampa and Middle-Green Colorado Pikeminnow and Razorback Sucker Larval Abundance), (2) incidental taxonomic services and consultation, and (3) ongoing maintenance and management of the growing Upper Colorado River Basin (UCRB) portion of the LFL Collection, including controlled access to and use of collection holdings and data by UCRB and other researchers.
- IV. Study Schedule: Ongoing project since 1995. Project 22F collections are processed and the resultant data provided to the principal investigator as soon as logistically possible after the collections are received. General collection maintenance activities (e.g., fluid level and container checks) are conducted each fall or winter; other maintenance concerns are addressed as needed. Collection management, including response to requests for loans or collection holdings, and provision of limited other taxonomic services and consultation for other Recovery Program projects and researchers is ongoing as needed.
- V. Relationship to RIPRAP: This project is related to General Recovery Program Support Action Plan V (monitor populations and habitat and conduct research to support recovery actions, research, monitoring, and data management). Identification of Project 22F collections contributes to Task V.A. (measure and document population and habitat parameters to determine status and biological response to recovery actions). The remainder of the project specifically addresses Task V.E (provide for long-term care, cataloging, and accessibility of preserved specimens) and, in that preserved specimens are the ultimate natural history database, contributes to current Task V.A.1 (conduct interagency data management program to compile, manage, and maintain all research and monitoring data collected by the Recovery Program).

VI. Accomplishments of FY 2005 Tasks and Deliverables, Discussion of Initial Findings and Shortcomings: The FY 2005 goals and objectives of this ongoing project are being met.

Task 1, Taxonomic Services—For Project 22F, we processed 268 preserved 2004 drift-net and 7 seine collections from the Yampa and Green Rivers in Echo Park (1,015 lots, 6,003 specimens). Data have been forwarded for analysis and reporting and all specimens have been catalogued and shelved as part of the LFL Collection. Incidental requests from UCRB researchers for taxonomic assistance or consultation on larval-fish sampling and collection handling matters were addressed as received.

Task 2, Ongoing Collection Maintenance and Management—As of September 30<sup>th</sup>, we have (1) conducted our annual fluid level and condition check, (2) installed updates of, and resolved problems with, our adaptation of the *Specify* collection catalogue and management program, (3) worked on finding and correcting errors in our catalog database, (4) again revised and resubmitted, with the curators of other Colorado State University collections, a National Science Foundation proposal to facilitate our planned, but currently tabled, consolidation of university natural history research collections in one specially renovated building, (5) made collection holdings and data available to UCRB researchers and other interested parties, (6) finished cross-cataloging with the National Park Service, at their cost, all holdings collected from within National Park Service (NPS) units (25,697 lots, 787,819 specimens), and (7) added a total of 8,533 lots of fish (303,615 specimens) from UCRB collections or investigations to the catalogued collection. Appendix A lists the study-year sets of UCRB collections that were cataloged during FY 2005. We now maintain and manage 92,277 lots of cataloged fish (3,187,051 specimens; 98% of all LFL cataloged holdings) collected from the UCRB or used for UCRB investigations (including specimens collected from or reared outside the basin). An *Access* database version of our catalog for these holding (selected fields, flat file) was prepared and submitted to the Interagency Database Management Program (IDMP) archive on November 4, 2005.

If funded, the NSF project noted in item 4 above will not only help cover the move of the LFL Collection, and other university collections, to new facilities with new compactor shelving, but help assure the permanency and usefulness of the collection by providing for the backlog cataloging of the more critical non-UCRB holdings and facilitating long-planned public access to selected (non-sensitive) collection catalog data over the Internet.

VII. Recommendations: We recommend continued annual support of Project 15 with sufficient funds for processing newly preserved collections covered by this project, incidental taxonomic services and consultation, and on-going maintenance and management (curation) of all UCRB specimens held by LFL.

VIII. Project Status: On-track and ongoing.

IX. FY 2005 Budget Status

- A. Funds Provided: \$47,700
- B. Funds Expended: \$47,700 (as of October 31)
- C. Difference: \$0
- D. Percent of the FY 2005 work completed, and projected costs to complete:  
100%, \$0
- E. Recovery Program funds spent for publication charges: \$0

X. Status of Data Submission (Where applicable): Data for Project 22F collections will be submitted under that project. Preparation of updated printed and *dBase* or *Access* versions of the LFL Collection catalog (selected fields) and submission of same to IDMP has been delayed until FY2005.

XI. Signed: Darrel E. Snyder November 7, 2005  
Principal Investigator Date

Signed: Sean C. Seal November 7, 2005  
Principal Investigator Date

Signed: Kevin R. Bestgen November 7, 2005  
Principal Investigator Date

APPENDIX A:

Study-year sets of Upper Colorado River Basin collection-species lots cataloged as part of the Colorado State University Larval Fish Laboratory Collection from October 1, 2004 through September 30, 2005 (8,533 lots, 303,615 specimens).

Beginning Cat. No.	Field Numbers	Description of Sample Sets
84334	LFL-02GR-7113	02 Larvae, DR, Green R, Echo Pk,DNM, CO
84335	FWS/GJ-GU03-119	03 Larvae, RZ, SN & LT, Gunnison R., CO
84336	LFL-95GRU-718D1	95 Larvae, Drift Net, Green R., Jensen, UT
85210	FWS/V-03RZ-067	03 Larvae, RZ LT, Green R, Vernal, UT
85739	LFL-02GR-LW-001 to 109	02 SN, Green R, Lodore-Whirlpool, CO
86922	LFL-02GR-LWEL2 to 3	02 EL, Green R, Lodore-Whirlpool,CO
86926	LFL-02GR-LW063	02 SN, Green R, Lodore-Whirlpool, CO
86927	LFL-03GR-LW163	03 SN, Green R, Lodore-Whirlpool, CO
86928	LFL-03GR-7091 to 8182	03 Larvae, DR, Green R, Echo Pk,DNM, CO
87420	LFL-02GR-LW065	02 SN, Green R, Lodore-Whirlpool, CO
87526	LFL-03GR-LW110 to 171	03 SN, Green R, Lodore-Whirlpool, CO
88157	(blank)	
88158	LFL-03GR-LW171 to 218	03 SN, Green R, Lodore-Whirlpool, CO
88649	(non-UCRB collections)	
88662	LFL-04GR-LW219 to 290	04 SN, Green R, Lodore-Whirlpool, CO
89474	LFL-04GR-SSN01 to 03	04 SN, Green R, Echo Pk, DNM, CO
89498	LFL-04YA-SSN01 to 04	04 SN, Yampa R, Echo Pk, DNM,CO
89534	LFL-04GR-LW246	04 SN, Green R, Lodore-Whirlpool, CO
89535	(non-UCRB collections)	
89605	LFL-96GR-6201 to 8232	96 Larvae, DR, Green R, Gray Canyon, UT
89833	(non-UCRB collections)	
89836	LFL-96YA-6291 to 8133	96 Larvae, DR,Yampa R, Echo Pk,DNM,CO

Beginning Cat. No.	Field Numbers	Description of Sample Sets
90631	LFL-04YA-6261 to 8123	04 Larvae, DR, Yampa R, Echo Pk, DNM, CO
91339	LFL-04GR-7111 to 8112	04 Larvae, DR, Green R, Echo Pk, DNM, CO
91585	LFL-04YA-722B2	04 Larvae, DR, Yampa R, Echo Pk, DNM, CO
91590	LFL-GR-MISCLW-1 to 8	02-04 EL, TR, Green R, Lodore-Whirlpool, CO
91608	LFL-95YA-7061 to 8152	95 Larvae DR, Yampa R, Echo Pk, DNM, CO
92193	(non-UCRB collection)	
92194	LFL-MISCCOLL-02	92 (7/12), Gunnison R. (C-2), CO (source?)
92195	(non-UCRB collections)	
92442	FWS/GJ-04GU-001 to 204	04 RZ, SN, Gunnison R., CO
93035	FWS/GJ-04CO-205 to 371	04 RZ, SN, Colorado R., CO & UT
92632	FWS/GJ-04GU-097 to 202*	04 RZ, SN, Gunnison R., CO
93655	FWS/GJ-04CO-218 to 350*	04 RZ, SN, Colorado R., CO & UT
93664	UDWR-04GRARM101 to 126	04 Marked RZ, DR, Green R, Jensen, UT
93737	UDWR-04GRARM501 to 524	04 Marked RZ, DR, Green R, Jensen, UT
93818	FWS/V-04RZ-001 to 163, - UNK1, -UNK2	04 RZ LT, Green R, Jensen to Ouray, UT
94621	(future)	

\* Separately cataloged portions of various collections within indicated series of previously cataloged collections.